SUSTAINABILITY REPORT 2020





Electro Volta House P.O. Box MB 77 Accra, Ghana Digital Address: GA-145-7445 Email: corpcomm@vra.com

+233 302 664 941-9 +233 302 218 540 +233 302 744 400



A model of excellence for power utilities in Africa

Mission

The Volta River Authority exists to power economies and raise living standards of the people of Ghana and West Africa. We supply electricity and related services in a reliable, safe and environmentally friendly manner to add economic, financial and social values to our customers and meet stakeholders' expectations.

Our Values



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Corporate Leadership



Mr Kweku Andoh Awotwi CHAIRMAN



Mr Richard Obeng Okrah MEMBER



Claudia Gyekye-Aboagye SECRETARY



Mr Emmanuel Antwi-Darkwa CHIEF EXECUTIVE/MEMBER



Mrs Janet Anane MEMBER



Chief Musah Badimsugru Adam MEMBER



Dr Joyce Rosalind Aryee MEMBER



Nana Kobina Nketsia V MEMBER



Mr EL Farouk Umar MEMBER

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Chief Executive's Message

Sustainable development is at the core of our corporate strategy as an Authority (VRA). We are aware that we are not owners of the world's resources, but stewards and therefore responsible for protecting what we have for those who will follow.

Today there is an increasing global demand for organisations to operate more sustainably. For this reason, the issues of climate change, fuel diversity and environmental protection are important to us in VRA. Sustainable development is equally important for our stakeholders. It has been embedded in our operations since our creation and remains at the fore of our strategy to survive. This is manifest in the planning, design and operation of the communities who were impacted by the operations of Volta River Project.

Over the years, as the requirements and demands of sustainability has grown, we have worked to integrate the new paradigms into our corporate culture and our relationships with our communities. We have become more sensitive to their needs and are deeply connected to them. Our community development programmes are tailored to address the specific needs of our stakeholders.

We have further improved our carbon footprint through a number of renewable energy projects including the 17 MW Kaleo/Lawra solar project and the 60 MW Pwalugu Hydropower Multipurpose project. Our 150 MW wind project is

also at the development stage.

We have also made progress in the area of thermal power generation. Our strategy to switch from light crude oil to natural gas has not only significantly improved our carbon footprint, but also contributed to putting us on a sustainable financial path owing to lower operation and maintenance costs of our thermal power assets.

We also prioritize the well-being of our employees, past and present, who form the most important pillar of our corporate strategy. We have created an environment that offers motivation and challenges to our staff to think outside the box. This has made the VRA one of the most preferred employers in the country. As we continue to integrate sustainability into our operations, we owe it a duty to deliver value to our key stakeholders. We are therefore grateful to them for their continued support in our operations. We are also grateful to all our partners for the roles they play in our corporate social responsibility and sustainability endeavors.

The VRA remains a leading power producer in the West African sub region and will build on this foundation to offer high value to our customers and stakeholders through our sustainability strategy.

Sincerely,

CHIEF EXECUTIVE

About Us

Brief History

The Volta River Authority (VRA) was established on April 26, 1961 under the Volta River Development Act, Act 46 of the Republic of Ghana with the mandate to generate, transmit and distribute electricity. However, following the promulgation of an amendment to the VRA Act in the context of Ghana Government Power Sector Reforms in 2005, VRA's mandate has been largely restricted to the Generation of Electricity. The amendment has the key function of creating the enabling environment to attract Independent Power Producers into Ghana's Energy market.

Following the amendment, the transmission function has been hived off into an entity designated Ghana Grid Company whiles VRA's Distribution agency, the Northern Electricity Department has been transformed into the Northern Distribution Company, a wholly owned subsidiary of VRA.

The VRA diversified its power generation portfolio to take advantage of available and sustainable sources of energy, mainly Hydro, Thermal (Natural Gas and Liquefied Petroleum Products) as well as Solar Energy sources.

PLANT	CURRENT INSTALLED CAPACITY (MW)
HYDRO	
Akosombo-Hydro	1,020
Kpong-Hydro	160
Sub-Total	1,180
THERMAL	
Takoradi Power Company (TAPCo)	330
Takoradi International Company (TICo)	340
Tema Thermal 1 Power Plant (TT1PP)	110
Tema Thermal 2 Power Plant (TT2PP)	80
Kpone Thermal Power Station (KTPS)	220
AMERI Plant	250
Sub-Total	1330
RENEWABLES	
Navrongo-Solar	2.5
Lawra-Solar	6.5
Sub-Total	9
OVERALL TOTAL	2519

Our Plants and Installed Capacities

Our Subsidiaries

Northern Electricity Distribution Company

The Northern Electricity Distribution Company (NEDCo) is the sole distributor of electricity in the Ahafo, Brong Ahafo, Bono East, Savannah, Northern, North East, Upper East, and Upper West as well as parts of Ashanti, Western North and Oti Regions, thus covering 64% of the geographical area of Ghana.

NEDCo also manages VRA's electricity supply to some border towns in Burkina Faso, Cote d'Ivore and Togo. NEDCo's customer population has a current growth rate of 6.3% per annum with a total customer population of 997,203 in 2020 and a maximum load of 333.7 MW with cross border load and 329.82 MW without cross-border load.



Akosombo Hotels Limited

The Akosombo Hotels Limited runs a three (3) star hotel, restaurant, modern conference/seminar facilities, pleasure activities, including cruising on the lake by MV Dodi Princess, and promotes tourism.



Volta Lake Transport Company Limited

The Volta Lake Transport Company (VLTC) also operates river transport for passengers, haulage of petroleum products and cargo such as cement. VLTC also provides ferry services across various parts of the Volta Lake.



VRA Property Holding Company

The VRA Property Holding Company is responsible among others for the efficient management of all commercial real estate assets of VRA and its operational subsidiaries.



VRA International Schools Limited

The VRA International Schools Limited (VISL) offer study opportunities in international curricular such as the Cambridge International Examination (UK) and the Scholastic Aptitude Test (USA) certificates. The VISL provides quality and affordable first and second cycle education in Akosombo, Akuse and Aboadze to wards of stakeholders of the Authority and the general public.



VRA Health Services Limited

The VRA Health Services Limited (VHSL) provides medical care for staff and their dependants as well as the general public. Its services are currently in the Authority's operational enclaves such as Akosombo, Akuse, Accra and Aboadze, VHSL provides in-patient, out-patient and specialist services.



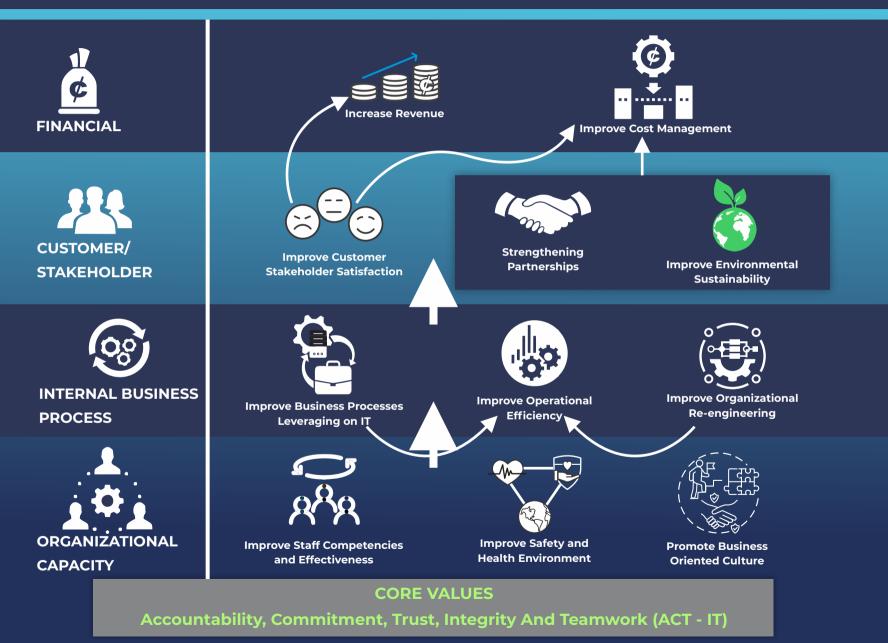
Kpong Farms Limited

Kpong Farms Limited plays a significant role in agricultural development through livestock and rice production, meat processing and the cultivation of pawpaw for export. In recent times, however, operations have temporarily been halted due to obsolete equipment and facilities, as well as liquidity constraints. The VRA is therefore seeking strategic investors to transform the farms into a profitable agribusiness.



OUR ENVIRONMENT & SUSTAINABLE DEVELOPMENT STRATEGY MAP

PURPOSE STATEMENT: Ensure sustainable use of resources for power generation and safeguard the health and safety of communities impacted by the operations of the Volta River Authority.



About This Report

This report describes VRA's sustainability performance in 2020 and covers its **Social, Environmental and Economic Performance**. The content of the report **specifically describes VRA's business activities within the context of our sustainability performance and our contributions to the Seventeen (17) United Nations (UN) Sustainable Development Goals (SDGs),** which encourage businesses to consider how they can best contribute to overcome global challenges.

The report has been **prepared with reference to the ten (10) principles of the United Nations Global Compact** to which VRA has been a signatory since 2003, and specifically addresses issues relating to the seventeen SDGs.



Social Performance



ALTERNATIVE LIVELIHOOD PROGRAMME VRA's beekeeping and fruit-tree development projects, serve as an alternative source of income to alleviate poverty among members of Community Based Organisations in our riparian

communities.



In 2020, about 60 members from 5 communities were trained in beekeeping management. The total number of beehives so far installed increased from the 2019 figure of 124 to 134 in 2020.

The total honey harvested during the year was 252 litres. This brings the total honey harvested since 2015 to 559.8 litres.

The VRA also offers technical as well as financial assistance to community based groups that engage in

fish farming, animal rearing, irrigation farming and other small businesses such as bead production, pottery and other handicrafts.



DONATION OF FOOD ITEMS VRA donated relief items to persons affected by flooding due to spillage from Burkina Faso's Kompienga and Bagre Dams to the people in impacted communities where VRA is

constructing the Pwalugu Multipurpose Hydroelectric and Irrigation Dam.

About 100 communities in the Upper East, North East, Savannah and Northern Regions were affected by the Spillage coupled with weeks of torrential rainfall in the region. Residents in the affected communities were displaced whilst foodstuffs, livestock and farmlands were destroyed along with about eleven people who died because of the incident.



The items valued at over GH¢ 200,000.00 included bags of rice, gallons of cooking oil, tins of milk and milo, to help ameliorate the plight of residents, who were heavily affected by the disaster.





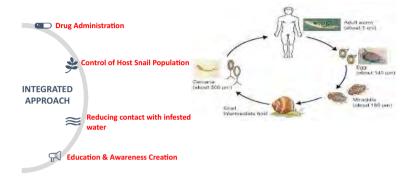
HEALTH AND WELL-BEING VRA's commitment to ensure the health and well-being of its communities is anchored on the provisions of the Volta River Development Act, Act 46 as

Authority to take reasonable measures to ensure the health and well-being of the affected communities in its operational areas

Schistosomiasis Control Programme

Pre-impoundment data indicate that prevalence of schistosomiasis in the Volta Basin was of no significant public health concern. However, in the last two decades, prevalence rates of schistosomiasis have soared up to significant levels, requiring holistic management to ensure continuance of having the social license to operate our hydroelectric dams as well as exhibit good corporate citizenship.

VRA is adressing the menace of schistosomiasis particularly in the Volta Basin, through an integrated approach.



The mass drug administration exercises which help to reduce parasitic load through chemotherapy was carried out in forty-one (41) communities within the Volta Basin, as part of efforts aimed at achieving an appreciable Schistosomiasis Control Index.

Evaluation of the Metropolitan, Municipal & District Assemblies exercises was conducted in 28 out of the 41 communities. The communities evaluated in the Asuogyaman District include; Akwamufie, Tusker, Dzidzorkope, Dodi Asantekrom, Nyanyor, Mamewaterkope, Old Akrade, Surveyline, Apanawu and Konkordeka. Those evaluated in the Ada East District are, Azizanya, Kewunor, Ada Foah, Tamikope, Terkpekope and Peterkope were evaluated. The evaluation in the Central Tongu District consist of; Mafi Dove, Mafi Dugame, Mafi Aklamador, Mafi Dekpoe, MafiDevime, Old Bakpa and Agbenyokope while communities evaluated in the South Tongu District comprised; Avuto, Doedoekope, Yorkitikpo, Dendo and Fievie.

Results of the MDA is presented as follows: 4,242 persons made up of 2,302 males and 1,940 females were treated. 11,686 tablets of Praziquantel (PZQ) were administered, with each person receiving an additional tablet of Piriton to curb Schistosomiasis

To determine the efficacy of the MDA exercise, seven hundred and thirty-eight (738) urine and thirty-four (34) stool specimen were randomly examined from 405 males and 333 females.

Fifty-five (55) individuals representing 7.45% of these persons and consisting of 26 males and 29 females were diagnosed positive. The prevalence rate ranged from 0.0% to 31.58% averaging 7.45% in the year 2020 as against previous average prevalence rate of 8.62% in these communities. None of the stool samples analyzed tested positive. Thus, the average Intestinal Schistosomiasis prevalence level recorded was 0.0%.

The reduction in average prevalence level observed could be attributed to the integrated intervention programmes rolled out by VRA in some of the communities. These control efforts will be beefed up and sustained to ensure the objective of lowering disease prevalence until its ultimate eradication is achieved.



Donation Towards The Fight Against Covid-19 VRA donated Two Million Ghana Cedis (GH¢2,000,000.00) to the National Covid-19 Trust Fund, as its contribution towards the Government of Ghana efforts to fight against the Covid-19 pandemic.

The Board Chairman of VRA, Mr. Kweku Andoh Awotwi, accompanied by the Chief Executive, Mr. Emmanuel Antwi-Darkwa and National Executives members of the VRA Senior Staff association made the presentation to the Fund at the Jubilee House.



The Authority also made donations of items worth Two Hundred and Ten Thousand Ghana Cedis (GH¢ 210,000)

to some five (5) District and Municipal Assemblies to assist their Hospitals as well as the Akwamu Traditional Council fight Covid-19.

The beneficiary district and municipal assemblies include Asuogyaman, Yilo, Upper Manya, Lower Manya and North Tongu. Each received quantities of veronica buckets, surgical masks, hand gloves, disposable gowns, gallons of hand sanitizer and liquid soap, tissue paper, non-contact thermometers and a cheque for Five Thousand Ghana Cedis (GH5,000.00) each to support their public education activities against the pandemic.



Fumigation & Disinfection Exercise

Work locations and plants within Akosombo, Akuse, Accra/Tema and Aboadze were also fumigated regularly in the wake of the Covid-19 and Cleaners cleaned surfaces, door knobs and hand rails regularly during working hours. We also fumigated adjourning communities of Akosombo and Aboadze townships as well as public schools in the Akosombo area. Sensor taps, soaps, wash hand basins and hand sanitizer as well as dispensers were also provided at vantage places for use by staff and visitors among others.



Medical Support For Staff And Retirees

VRA continues to provide free medical services for its staff, retirees and their dependants, to ensure a healthy workforce. Active staff are also enjoined to attend mandatory safety meetings held at least once a month for those offering services and at least four times a month for those working in the generation plants.



SUPPORT FOR EDUCATION

VRA supports efforts at ensuring quality education through its Education Scholarship as well as Employee Volunteer Programmes for needy but brilliant students

and public Senior High Schools within its operational areas. VRA also donates educational materials and offers financial support towards science and mathematics projects and quiz competitions in schools within its impacted communities. These programmes are intended to support national education efforts to maximize the potential of students to contribute to Ghana's human resource development needs.

Educational Scholarship Scheme

The VRA scholarship package covers full tuition and other expenses throughout the beneficiaries' years in school. To date, the scheme has supported 329 needy but brilliant students. The selection of applicants for SHS scholarship is conducted in collaboration with local education authorities of the Ghana Education Service and Traditional Authorities from the various traditional councils from our impacted communities. However, with Government's Free SHS Policy, stakeholders recommended for VRA to transfer its budget component for the SHS scholarship to support Technical & Vocational Education Training (TVET).



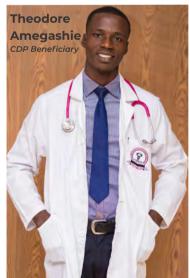
In 2020 therefore, a committee was appointed to ensure continuity for the awards of Tertiary scholarships whilst awaiting Management's approval of recommendations for the transfer of the budget component for the SHS scholarship component to support TVET.

Highlights of The Scholarship Scheme

Theodore Amegashie a beneficiary from the Anlo State has successfully graduated as a *Medical Doctor* from the University of Ghana (School of Medicine and Dentistry). Francis Essilfie from the Shama Traditional Area who graduated from University of Health and Allied Sciences with a Distinction in Bachelor of Medicine and Surgery. Miss Nancy Adwoa Pokuaa, a beneficiary from the Osudoku Traditional area was awarded *Best Female Nursing Student* from the University of Cape Coast.







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NAME INSTITUTION PROGRAMME

FIRST CLASS / DISTINCTION

Theodore Amegashie	UG, Legon	Bsc Medicine And Surgery
Gidisu Mawulawoe	UE, Winneba	Bsc Accounting Education
Wakemeh T. Nartey	KNUST, Kumasi	Bsc Accounting Education
Nancy Adwoa Pokuaa	UCC, Cape Coast	Bsc Nursing
Nyamesekpor Ivan	UG, Legon	BA Geography, History and Archaeology
Christopher Fortse	UCC, Cape Coast	Bsc Biochemistry
Agbezuke Victoria	CHWB, Kintampo	Bsc Biochemistry
Francis Essilfie	UHAS, Ho	Bsc Medicine And Surgery

NAME	INSTITUTION	PROGRAMME
SECOND CLASS UPPE	R	
Amemasor Emmanuel	UE, Winneba	Bsc Business Administration
Attigah Jonathan I.	KNUST, Kumasi	Bsc Chemical Engineering
Kudroha Russel	KNUST, Kumasi	Bsc Electrical/ Electronic Engineering
Dorvi Frederick Kofi	KNUST, Kumasi	Bsc Chemistry
Nadugbey Emmanuel	UCC, Cape Coast	B.Ed Mathematics
Teye-Doku Adamki L.	UHAS, Ho	B.Sc. Nursing
Odame Elizabeth	KNUST, Kumasi	B.Sc. Computer Engineering
Ampomah Ani Joshua	UE, Winneba	B.Ed. Early Childhood Education
Etefe Juliet	GIJ, Accra	B.Sc. Communication Studies
Ofori Yeboah Derrick	UPS, Accra	B.Sc. Accounting
Teye Nukpo Teye	KNUST, Kumasi	B.Sc. Acturial Science
Adzewoda Michael	PNTC	Diploma in Mental Health Nursing
Adomah Setsofia	KTU, Kumasi	HND. Mechanical Engineering (Plant Option)
Gaku Fabian Pinto K.	UG, Accra	B.Sc. Medical Laboratory Sciences
Ewornuku Maccarthy	UHAS, Ho	B.Sc. Nursing

SECOND CLASS LOWER

Asare John Yaw	UG, Accra	Linguistics, French and Spanish
Tetteh Eunice Korkor	UE, Winneba	B.Sc. Physics Education
Adjei Leonard	UG, Accra	B.A Economics, Geography & Archaelogy
Gakor Senyo Famous	UE, Winneba	B.Sc. Mathematics Education
Felix Agyei Akuffo	UE, Winneba	B.Sc. Chemistry Education



ACHIEVING GENDER EQUALITY IN VRA VRA is mindful of implementing rules to ensure gender equality and balance. VRA currently has about 2,098 staff with a male female ratio of 1627:471. Out of a total number of 17 in

directorate position, 18% are female and 19% of its Managers are also female. The Authority is conscious of the fact that some Professions like Engineering are dominated by men, however, VRA gives equal opportunity to the available few females to also gain employment. Management in 2020 announced their preparedness to give more female engineers greater opportunities in 2021.



VRA also offers opportunity for females to occupy management positions. In 2020, the second female Deputy Chief Executive (Dr. Stella Agyenim Boateng) was appointed to the Services branch a few years after the first female Deputy Chief Executive in charge of Finance, Alexandra Totoe (Ms.) was seconded as the Chief Financial Advisor to State Interest & Governance Authority.





WATER & SANITATION PROGRAMME The Authority's has been providing clean water and ensuring sanitation among its communities. VRA deems its efforts to provide water and sanitation facilities as a more

sustainable way of curbing the spread of Schistosomiasis in riverine communities along the Volta Lake.

Provision of Clean Water

The provision of the potable water system is part of our intervention to fight Schistosomiasis in many of our impacted communities along the Volta Lake.

Lack of potable water in these communities has been

identified as one of the major causes of the spread of the disease.

In 2020, VRA carried out the 1st phase of the replacement of asbestos pipes to HDPE in Akosombo, and also some reservoirs. The Authority is also relocating its chemical dozing facility at the Water Treatment Plant.

The Authority conducted feasibility studies in some communities including Agbledome, Alakorpe, Anyako, Atiavi, Aborlove, Apeguso, Akotoe, Akotoe Tsreboanya and Battorkope from four (Anloga, Keta, Asuogyaman and Upper Manya) districts and inspected existing facilities towards the provision of potable water.

Meanwhile Six communities (Sedorm and Korankyi in the Asuogyaman District and Amlalokorpe and Volo in the North District and Atrobinya in the Shai-Osu Doku district and Teikpitikorpe in Ada East District) with a population of about 5,000 have already benefited from our solar powered mechanized borehole water facilities. Our water project in collaboration with Project Maji Foundation goes to assist deprived communities affected by Bilharzia disease.

Provision of Biofil Sanitation

VRA's Biofil sanitation facility is an off-grid alternative to septic tanks, that treats faecal matter on site in a digester separating solids and liquids under aerobic composing condition making the system odour free.

In 2020, VRA begun the provision of a Biofil toilet facility .for two institutions (Adjena SHS) and (Kade Government Hospital) in the Asuogyaman and Kwabebrim Districts respectively. A ten(10) double seater biofil facility which is under construction in Adjena, for Adjena SHS, whiles a second nine(9) double seater facility being provided for Kade Government Hospital. Both projects delayed in completion due to the Covid -19 pandemic.

In 2015, Bakpa and Kebenu, a Schistosomiasis endemic community in the Central Tongu District of the Volta Region benefited from our Biofil Sanitation Programme. The community at the time had more than 80% of its population infested but the provision of the facility significantly curbed the situation.

Following the success story, Dzebetato in the South Tongu District, West Kpong Resettlement Community Methodist School in the Manya Krobo District and Supomu Dunkwa Community in the Shama District of the Western Region have also benefited from such interventions

Refuse Collection In VRA Townships

The Authority procured two(2) refuse trucks for the collection of refuse in the Akuse and Akosombo Townships and intensified its collection by executing a once a week collection and disposal of waste from each house in the Township.

Cleaning of Drains In VRA Townships

VRA also ensured the regular cleaning of drains and in 2020; about 80.2km of drains were cleaned every week in VRA townships.



RENEWABLE ENERGY PROGRAMME

VRA is striving towards the provision of affordable and clean energy. To ensure the above, the Authority is pursuing a number of renewable programmes.

The Solar Power Project in the Upper West Region

This Solar Power Project is being funded by KfW (a German Government Development Bank) through a Loan Agreement between the Government of Germany represented by KfW and Government of Ghana, represented by the Ministry of Finance and the VRA.

The Project Construction is being done by Elecnor S.A. from Spain with Tractebel Engineering Services of Germany as project consultant.

The site at Kaleo for the development of the Solar Project is located about 0.85km East of the Kaleo Township (which is about 13 km North of Wa) whilst that for Lawra is located about 2.3km North of the Lawra township.

During the initial stages of the project, some technical improvements were made to it which were in line with the rapid technological improvement in the Solar PV market in the areas of PV Panels, inverters, combiner boxes, etc.

The above improvements resulted in an additional capacity of about 2.62MWp. Thus, bringing the total capacity of the project to about 19.62MWp with no change in the contract price. The revised breakdown of the capacities with respect to the locations are as follows: a)Lawra - 6.54MWp b)Kaleo A - 7.85MWp c)Kaleo C - 5.23MWp. This Solar Power Project is to support VRA's "bundle sales arrangement", where customers are assured of reliable power supply from different power sources and also green energy to meet client's requirements for green energy. Thus, with these arrangement customers can receive both conventional power and Renewable Energy in one arrangement.

It is also noteworthy that the President of the Republic of Ghana commissioned the Lawra Solar Power Plant on October 10, 2020. All Stakeholders were invited to the program and it was a success.





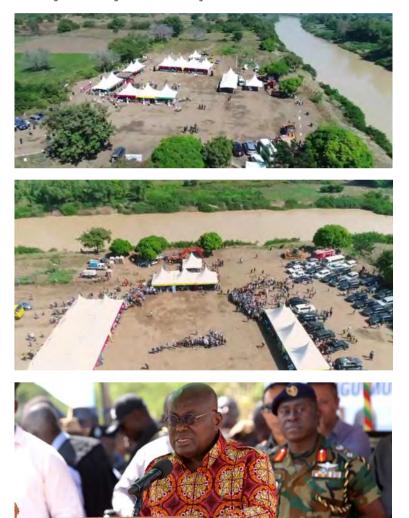




RENEWABLE PROJECT	CAPACITY	STATUS
17MW Solar PV 2020: 6.54MW Lawra	6.54MWp	Commissioning
2.5MW Navrongo	2.5MWp	Operational
Head Office Cafeteria Rooftop Solar	86.4kWp	Operational
17MW Solar PV 2020: 13MW Kaleo	13MW	Under construction
Head Office Solar Car Park	57kW	Under construction
PMDP-Hydro Component	60MW	Implementation Phase – Preparations to construction on going.
PMDP-Solar Component	50MW	Implementation Phase – Preparations to construction on going.
Akuse VRA Schools Rooftop	1.05MW	Procurement Stage-Procuring contractor for solar PV modules and installation.
Wind Power Project-1	75MW	Procurement Stage-TSA to assist VRA to choose equity partners
Kaleo II	14MW	Implementation Phase-Procuring funding and EPC.
Bongo Solar	40MW	Detailed Preparation Stage

Pwalugu Multipurpose Dam Project

VRA cut sod to commence the construction of the 60MW Pwalugu Multipurpose Dam, which when completed will be a game changer. This project also incorporates a 50MW solar hybrid component at Kurugu in the West Mamprusi Municipality of North-East Region of Ghana. It will serve as a mechanism for flood control and irrigation. A team from VRA and Lands Commission undertook field verification exercises to reference the crops and buildings as part of the preparation of Environmental and Social Impact Assessment Report. The team also engaged consultants of the Project on ways to carry out the Project in a sustainable manner.









Kpong Generating Station Retrofit Project

From its inception thirty (30) years ago, the Kpong Generating Station operated reliably until the year 2000 when the power generating components started experiencing higher than normal failures and forced outages. This was as a result of aging equipment and obsolete critical parts which could not keep up with emerging technologies.

A technical audit was conducted by Acres International (now Hatch Limited; the original engineering consultants on the Kpong Hydro Project) in 2006 and they recommended rehabilitation of the Plant to ensure reliable operations for the next thirty (30) years. In 2013, VRA engaged Andritz Hydro-Austria as the Engineering, Procurement and Construction Contractor and Hatch Energy as the Owner's Engineer for the Retrofit. The objective was to rehabilitate and upgrade the electromechanical components of the four (4) generating units, to bring the station to "as new" condition and guarantee power generation for the next (30) years.

Site works on the first generating unit commenced on October 20, 2014 and the rehabilitation of all four (4) Generating Units have been successfully completed in 2020, and are in commercial operation. The schedule for the completion of the generating units were as follows:

UNIT	SHUTDOWN DATE	COMPLETION DATE
2	20th October, 2014	12th August, 2016
1	lst September, 2016	23rd February, 2018
3	26th March, 2018	14th March, 2019
4	7th May, 2019	19th September, 2020

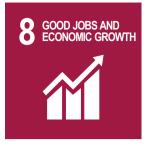


COMMISSIONING OF KPONG GS RETROFIT PROJECT

Sustaining the Future through Clean Energy Akuse, Eastern Region

Monday, October 26, 2020





CONTRIBUTION TO ECONOMIC GROWTH AND GOOD JOBS

VRA is the current electricity supply market leader in Ghana, with a market share of 53.42% as at the end of 2020. The remaining 46.58% is the shares of all the IPPs and other generators. With the current leadership in market share, VRA is generating the needed power for the economic growth of Ghana as it contributes to industrial and domestic productivity thereby positively contributing to the Gross domestic Product of Ghana. It does so as a net employer, by offering decent and fulfilling jobs that is satisfactory and competitive but is determined to protect labour rights devoid of modern slavery and child labour in accordance with SDG 8.

Domestic Market Share





ICT PROGRAMME

The VRA engaged in a number of activities to ensure the availability of its Information, Communication and Technology for business applications during 2020. Major activities carried out include:

Innovations For Business Continuity

Microsoft Teams, a remote collaboration tool was successfully rolled out as part of measures to ensure business continuity. The Virtual Private Network remote working tool was also rolled out in furtherance of business continuity and to enable staff work from home in the face of the pandemic. These tools ensured that productivity remained assured in spite of the social and physical distancing protocols that have defined the "new norm" in work life.

Modifications were made to the Web School Management System (SMS) to accommodate virtual learning and a billing module with GCB and Zenith Banks, for the sale of Senior High School (SHS) application forms and payment of school fees.

Workflow in Enterprise Asset Management (EAM) of Oracle EBS was implemented for the tasks undertaken by Real Estate and Security Services Department in Accra and Northern Electricity Distribution Company, Wa. The workflow was standardized reimplemented for all the Thermal Generating plants.

Electronics Document and Record Management System (EDRMS) Project

The EDRMS is intended to reduce paper usage and eventually make the Authority operate in a paperless

environment. As part of phase two of the implementation, which is the development of work flows for manual processes, the cash and budget cover request process was automated by developing a software that is being piloted in six (6) departments (Hydro Generation, Thermal, Procurement, MIS, Finance, Real Estate & Security).

ICT Infrastructure

Availability and stability of networks, servers and communications systems remained commendably high with a yearly average availability rate of 97.96% for network, 99.94% for servers, 98.70% for Email & Instant Messaging systems and 97.80% for telephony during the year.

The corporate email system (Microsoft Exchange) was successfully upgraded and migrated from the physical standalone to a virtual redundant environment to secure its availability and reliability.

With the advent of Covid-19 the usage of the communication and collaboration tools like the Email increased, and the deployment of Microsoft Teams was fast-tracked. The use of Microsoft Teams was phenomenal throughout the Authority and used extensively for meetings, training, discussions, presentations etc.

User support was provided for corporate applications, which included formal training on the use of the applications and handholding for staff to accomplish tasks. Additionally, some functionality was added to some applications to improve or quicken business processes. Notably among them was the modification to the Project Register System for Technical Services Department with twenty – eight (28) request enhancements.

Due to Covid – 19, the online version of the Time and Attendance system (OTAMS) was modified to safely record and monitor staff attendance across all locations.



Information Security

The security of the Authority's digital assets was ensured by creating security – conscious users and strengthening our capacity to mitigate cyber security attacks.

Cyber Security Awareness

About forty-two (42) Cyber Security Awareness Security Sessions were carried out at safety meetings for staff of various Departments in various locations of the Authority. A Cyber Security Awareness taught course was developed with support from the VRA Academy and the course will be rolled out in 2021.

Thirteen (13) cyber security sensitization programs were carried out during the year at safety meetings for staff of the various departments and locations in the Authority. Cyber Security Awareness for staff continued during the year with twenty-eight (28) cyber security sensitization programs carried out for over thousand five hundred (1,500) staff.

Client Services Support

Timely support was provided to all clients at the various locations on receipt of requests from the services desk. The support provided was mostly done remotely, using ICT remote tools due to the COVID situation. There were One Hundred and Fifty-Seven (157) recorded requests for Polocom setup for various online meetings.

Corporate ICT Training

Eleven virtual workshops on Cyber Security, IT Services and Policies were held with two hundred and nineteen (219) staff participating.





REDUCED INEQUALITIES AT THE WORKPLACE

VRA operates a fair wages & salaries structure devoid of inequalities, coupled with a fair HR system that allows growth through progression and promotion, to attract the best employees in various categories of professions.

The Authority offers equal opportunities for employment and publicises its vacancies internally and externally to attract the best employees. It also strives to bridge the inequality gap through

a Collective Bargaining Agreement with staff groups.



COMMUNITY DEVELOPMENT PROGRAMMES

VRA engages with traditional rulers, opinion leaders such as Assemblymen, market leaders, transport union leaders among others in its impacted communities to discuss issues and implement agreed decisions and to ensure that the Authority's business is not unnecessarily disrupted.

In 2020, Stakeholder engagements were held within a number of resettlement townships. Key

amongst them are Somanya, Bowiri, Forifori, Dedesowireko, Nkonya – Wurupong, Dambai Saki,Bediako and Kpone communities. In all these engagements, the team educated and helped in resolving issues and provided the relevant documents. However, with the onset of Covid -19 some planned engagements were put on hold.

	BENEFICIARY	PURPOSE FOR
	Nkonya Wurupong Traditional Area	Ongoing 12-Seater Water Closet Project
	Ngleshie Alata James Town	Ten (10) years Anniversary celebration of Nii Appiah V
	Kpone Traditional Council	Homowo Festival Celebrations 2020
	Kokono D/A Basic School	Canteen Project
	Manya Krobo Traditional Council	Ngmayem Festival 2020
	Keta Municipal Assembly	Maiden Keta Fair
	Fodzoku Traditional Council	Gligbaza Festival
	Anum Traditional Council	Yam Festival Celebration 2020
	Torgorme Traditional Council	The funeral of the Late Torgbe Gah II
	VRA Traditional Authorities	Courtesy Calls
	Western Command of the Ghana Immigration Service	2019 End-of-Year Celebrations and Awards Night
	Western Regional Head of State Awards	Bronze and Silver Adventurous Journey 2020
and the state of the second	Shama District Assembly	Farmer's Day Celebrations 2020
Sod Cutting ceremony for the commencement of the	Wasa East District Assembly	Farmer's Day Celebrations 2020
construction of Fodzoku Community Centre.	Western Regional Coordinating Council	Farmer's Day Celebrations 2020
24	Veterans Administration, Ghana	"Poppy Day" Celebrations

VRA in 2020, however, supported some cultural activities like festivals, royal installations and funerals in some of its impacted communities as depicted in the table, as a way of preserving the culture of its communities. The Authority also supports community initiated Projects like community centres, schools, health posts and police stations among others.

Implementation of No Permit, No Development in Akosombo Township

Local Governing Body (AMC) of VRA in 2020 also passed into force a No Permit No Development Policy to ensure that all prospective developers in Akosombo acquire development permit before construction. This would help control haphazard development in a bid to beautify the town. Enforcement is currently ongoing.

Flood Protection Systems

VRA in 2020 started and completed the construction of Storm drains from the Combine Barrier through the outlet drain to prevent flooding in Akosombo. The Storm drain has been constructed along the high street.

Use of Drone Technology for Monitoring

Drone technology is being deployed to monitor:

•Changes in Land Use & Spatial Planning within Akosombo Township.

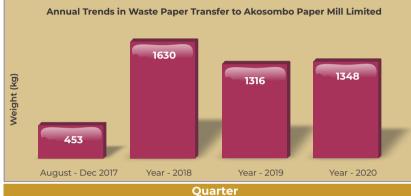
•Right of Way of Electrical Distribution LineSystem within Akosombo and its environs to control vegetation growth within the RoW for the purpose of ensuring safe and reliable operation of the line.



VRA's RESPONSIBLE CONSUMPTION PROGRAMME

VRA has made a conscious effort to operate substantially and reduce waste generation through prevention, reducing, reusing and recycling.

Under the Authority's solid waste segregation programme in 2020, VRA delivered a total of 1,348kg of waste paper to Akosombo Paper Mill Limited (APML). Since the inception of the programme in August 2017 we have delivered a total of 4,747Kg of waste paper to APML and has in return received 320 pieces of unwrapped toilet rolls.





The Authority campaigns vigorously for the public to conserve energy.





PET Bottles Segregation & Processing Programme

VRA in accordance with its commitment to ensuring continuous improvement of its Environmental Performance intends to embark on the segregation and disposal of Polyethylene Terephthalate (PET) bottles or plastic drinking bottles, targeting Akosombo and its environs within the Asuogyaman District.

Under this, VRA will establish a "Plastic Waste Processing & Recycling Centre" in joint collaboration with a waste management company. Evaluation of proposals from shortlisted firms was completed in November 2020 and the report has since been approved by Executive for implementation.

The preparation of the memorandum of collaboration with the successful firm is underway to enable implementation of the PET Segregation programme begin in 2021.



Environmental Performance



CLIMATE CHANGE PROGRAMME

VRA's environmental policy requires that we develop and implement systems for all our business units to ensure compliance with national and international environmental protection regulations as well as monitor and report on environmental performance as required to our stakeholders. Our Environmental Management Plan (EMP) and Preparedness Plan for our two hydroelectric plants as well as internal and external policies and regulations were strictly adhered to our stakeholders' satisfaction. A variety of conservation programs, involving

significant reductions in Green House Gas (GHG) emissions was also carried out.

Green House Gas Inventory Reporting

Our Green House Gas (GHG) Inventory Report covering the period 2012 -2015, which constituted the initial report, was reviewed by the EPA and a verification report submitted in January 2020. The Report has subsequently been updated to cover the period 2012-2018. Data on emissions from marine transport has been captured in the report as indicated in the table below.

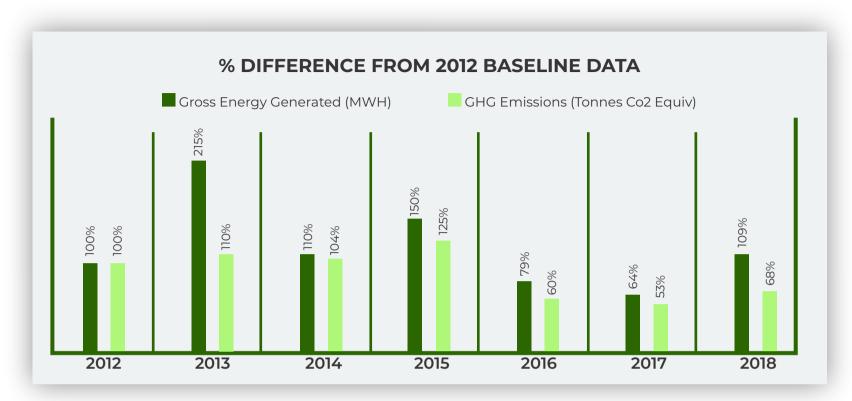
Operational Emissions Category	Emissions Source Category	Coporate Emissions Source	Total emissions Tonnes Co2 Equivalent	% of total corporate emissions
		ті	5,116,494.49	54.55%
		Т3	135,112.56	1.44%
Direct Emissions Sources	Stationary Combustion	TTIPS	2,508,112.11	26.74%
		TT2PS	500,984.84	5.34%
		MRPS	321,253.36	3.43%
		KTPS	340,564.11	3.63%
	Mobile	Vehicles	12,181.41	0.13%
	Combustion	Water Transport	444,508.504	4.74%
Total Emissions from Direct Sources		9,379,211.39	100.00%	

The report also provided GHG savings from solar power facilities and Office Paper Waste Recycling Programme.

Source	Annual GHG Emission Savings (Tonnes CO2e)
Navrongo Solar Power Station	8,627.00
Office Paper Recycled	9.00
0.054MW Aglakope	17.00
0.0405MW Atigagorme	6.00
0.054MW Kudorkope	14.00
0.05MW Perdiatorkope	17.00
0.03MW Wayokope	5.00
Total	8,695.00

Annual trends of emissions from stationary combustion, which is the major source of GHG emissions, and the gross energy generated for each year as well as the percentage differences from the 2012 baseline data as shown in the chart.

The trend shows the percentage differences from the baseline data during the period. In Year 2013, even though the gross energy generated was 115% over the baseline data, equivalent GHG emissions increased by only 10%. The highest percentage difference in GHG emissions of 25% was experienced in 2015, during which period gross energy generated was 50% over the baseline data. There was considerable decrease in GHG emissions from 2016-2018, with the lowest being in 2017, which achieved 47% less the baseline data. Indeed, in 2018, the gross energy generated was 9% above the baseline level whilst equivalent GHG emissions was 32% below the baseline data.



Percentage difference from 2012 Baseline Data Graph

Climate Smart Stove (CSS) Project

During the year under review, ninety (90) CSS were constructed for 90 households in four (4) Communities. This brings the total number of stoves constructed since 2015 from 420 in 2019 to 510 in 2020. Based on a post graduate research study by students from the University of Ghana, the rate of adoption/utilization by the community was initiated to help improve the performance of the cook stoves.

Climate Life Campaign Documentary

The Authority in year 2020 provided sponsorship to the Environmental Protection Agency (EPA) to develop a documentary for the Energy Sector under the EPA's Climate Resilient Life Campaign. Filming and interviews



with the Authority's personnel has been completed. The draft documentary has since been reviewed and is being finalized.



PROTECTING THE VOLTA LAKE

VRA takes steps to minimize pollution by monitoring and assessing quality of resident reservoir water. Monitoring is carried out on effluent from the tailrace of the Akosombo and

Kpong Dams, as well as pollutant-laden effluents from suspected pollution sites along the shoreline of theVolta. We do so by benchmarking our pollution monitoring performance against WHO/EPA targets in monthly quarterly and half yearly reviews, which are presented to the Management Board.

Ensuring Water Quality

Impoundment of the Volta River during the construction phases has resulted in changes of the water environment within the reservoir and downstream segments of the river. A change in the flow regime coupled with the ecological interactions has resulted in changes in the water quality. Anthropogenic activities along the Volta basin particularly the Headpond and the Lower Volta segments and effluent from tail race vary insignificantly in quality as compared to influent at both dams. This could have the tendency to impact negatively on the biological quality of the water.

Results indicate the quality of water of the Volta Lake within the Authority's operational areas were found to be within acceptable limits, hence little or no environmental and social impacts on lakeside communities are expected.

Spill Prevention Measures on the Volta Lake

VRA intends engaging eligible Ghanaian Consulting Firms for the preparation of Oil Spill Contingency Planning and Reporting for the Volta Lake System. The procurement process for engaging a Consultant commenced in year 2020.

Acquatic Weed Harvesting to Promote Health of the Lake

The invasion of the Volta River System by water hyacinth in 1998 was identified as a disruptive event since water hyacinth, an invasive plant species, has the potential of changing the status of plant diversity components of the Volta River System by colonizing habitats it invades and subsequently eliminating species that are unable to adapt to the changing environment. Maintaining the Volta Lake ecosystems through the management of water hyacinth therefore occupies a leading role in the business strategy of VRA also achieved through:

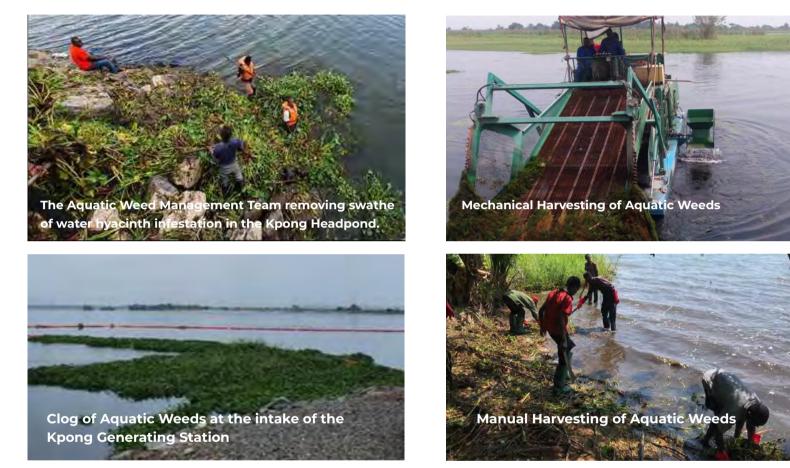
•Control of southward spread of water hyacinth in Oti Arm of Volta Lake, which is currently at Kpetsu, a community located about 27km north of the Volta-Oti confluence.

•Remove excessive water hyacinth growth at water contact sites of communities to minimized impact on socio-economic activities such as Hydro Power Generation.

•Undertake periodic reconnaissance survey on the Volta river for disclosure of new infestation sites.

As at December 2020, the frontline of infestation of

The Southward drift of water hyacinth infestation in the Oti arm of the Volta Lake is duly contained thus minimizing any threats on plant diversity in that segment of the Volta Lake. Manual control of infestation in the Lower Volta is ongoing, to be supplemented by Weed Harvesting activities by the Lower Volta dredging and aquatic weeds initiative.



Surveillance of the Lake Using Drone Technology

VRA in 2020 instituted a surveillance-monitoring programme to help identify and halt illegal undertakings or developmental projects, including aquaculture as part of efforts to help protect the integrity of the Volta Lake, for sustained hydropower generation. The program will utilize Drone Technology Services to enhance routine environmental surveying, mapping, monitoring and protection activities mainly along the Volta Lake in 2021.

The program will cover:

•Monitoring of Encroachment along the banks of the Volta Lake including the White Volta, Oti Arm, Afram Arm, Asukawkaw, Sene, Dayi, Daka and Pru Rivers.

•Monitoring of VRA Reforestation Programmes within theVolta Gorge and Buffer Zone areas of the Volta Lake.This entails vegetation mapping, plant species identification, tree counting, detection of vegetation changes, vegetation health analysis, detection of illegal agriculture farms and carbon mapping.

•Monitoring of aquatic weeds coverage and changes on the Volta Lake System

•Monitoring of Aquaculture Developments within the catchment areas of the Volta Lake. Drones will be utilized to capture the number and sizes of aquaculture developments on the Volta Lake and Kpong Head pond, and advise on any changes identified over the period.

•Development of Aerial Images & Electronic maps.

•Capacity Building for Staff to take over the drone monitoring task.

The project is expected to generate detailed maps and photographs of land use changes, erosion, human activities, aquatic weeds coverage, vegetation coverage, and aquaculture developments among others along the Volta Riverine System to allow for enhance environmental planning and conservation activities for sustain hydro power generation.



VRA REFORESTATION PROGRAMME

VRA's Volta Gorge Reforestation programme of activities include Environmental education in communities and schools, tree nursery establishment for raising of forest tree seedlings and grafted mango seedlings, tree planting, clearing of tree plantation, replacement of dead tree seedlings (beating-up), wild fire management, survival surveys and monitoring to provide feedback for decision making.

Volta Gorge Reforestation

As at December 2020, about 3,132 hectares of the Volta gorge area had been covered by dense forest vegetation, consisting of both plantation and natural forest planted by VRA. Tree species adopted for plantation are *Senna siamea* (cassia), *Acacia mangium*, *Khaya senegalensis* (Mahogany), *Cedrella odorata*, and *Leuceana leucocephala*. The forest plantation area is 1,630 hectares; the natural forest cover is 1,502 hectares and the area of land with rocks and grass vegetation is 2,017.24 hectares.

Buffer Zone Reforestation

In 2020, a total of 28,800 out of 41,000 forest tree seedlings produced were supplied to 31 riparian communities for planting and 41 hectares of planted area achieved. The remaining 12,200 seedlings were kept in the tree nursery for beating-up.

Bamboo Plantation Development

In partnership with the Forestry Commission of Ghana (FC), we started a bamboo plantation development programme to further protect the Volta Lake. This partnership became necessary because the Volta Lake environment including the Volta Gorge is being degraded and deforested on daily basis through livelihood activities such as: farming, fishing, biomass energy production (firewood and charcoal) and sale of lands.

In addition, the Authority in collaboration with the riparian communities, land owners and District Assemblies have implemented various watershed management interventions aimed at protecting the Volta Lake environment and improving livelihoods of the fringe communities.

The use of the bamboo species will help serve the following purposes:

- Protect the Volta Lake by serving as a means of demarcation of the 85 meters above mean sea level (280 feet contour)
- Create a buffer zone to avoid encroachment of VRA acquired lands and flood prone areas
- · Protect against erosion and prevent or reduce the rate of evaporation of the Volta Lake
- Promote the socio-economic importance of bamboo for sustainable development of the riparian communities.

Economic Human Rights & Business Performance

The Volta River Authority has at all times strived to exhibit the best of conduct in the area of Economic, Human rights and Business performance. The Authority does not do business at the expense of its stakeholders and communities. It is always mindful that its conduct does not negatively impact it people, planet and profit.



EFFORTS TO MAINTAIN PEACE AND JUSTICE IN THE WORKPLACE

VRA as a state institution is guided by its contract with the State Interest and Governance Authority (SIGA), which sets performance targets for the Authority. VRA therefore conducts its businesses in a manner that portrays it as a strong institution that strives to attain peace and justice for all and not profit at the expense of others.

Governance and Ethics

In accordance with the Organization for Economic Co-operation and Development (OECD) Governance Principles, VRA relates well with SIGA, the VRA Board, Shareholders and Stakeholders; with a system of structuring, operating and controlling the Authority to achieve specific results. Transparency, Accountability, Responsibility and Fairness are the pillars of our Corporate Governance. The Authority's quest to achieve good Corporate Governance is therefore anchored on the above pillars.

Transparency

The Chief Executive's planning letter to Staff at the beginning of 2020, set the tone for management engagement with staff on operational and budgeting matters, bringing everyone on board. This letter clearly outlined the Authority's targets and strategies for achieving the targets with expectations from specific departments and staff in general.

Anti-Corruption Compliance

VRA encourages high ethical standard and behaviour among employees with continuous education on the Authority's code of conduct and values. VRA carries regular assessment of staff understanding on the core values of Accountability, Commitment, Trust, Integrity and Teamwork. These exercises augment our efforts to develop systems and strategies to promote our values towards dedicated and faithful service to the Authority. They also signal to our contractors, suppliers and customers the Authority's expectation regarding proper conduct and generally acceptable standards of behaviour.

Tax Compliance

The Authority has at all times complied with its tax obligations by ensuring that staff income tax are duly deducted and paid to the Ghana Revenue Authority. It also ensures the deduction of taxes from all its service providers and contractors are paid to the Ghana Revenue Authority and returns made to the said companies as a way of ensuring that they do not evade tax.

Respect for International Conventions

Under our business code, which conforms to the principles of the International Labour Organization (ILO) and the UN Conventions on Human Rights, we monitor all aspects of our operations to ensure compliance. VRA does not employ child labour in its operations and will not deal with any supplier who uses forced and compulsory labour.

Workplace Policies

At VRA, we strive to apply our workplace policies in a fair and firm manner. Equal opportunities in terms of employment and training exist for all staff because of our commitment to attract employees based on ability and merit to do the job.

We have a workplace Health and Safety Policy, Risk Management Policy and Corporate Compliance Framework that give credence to the basic belief that VRA's operational success largely depends on health, safety and risk management.

Over the years, we have seen the observance of Corporate Safety Awareness Day as a mandatory exercise at all VRA locations. All Departments hold compulsory staff monthly/weekly safety meetings and participation by staff forms part of their performance appraisal.

Freedom of Association

VRA recognises and respects freedom of association. The Authority collaborates with its workers' unions in all its affairs. The Authority especially recognised the contribution of its Senior Staff Association (SSA) and Public Services Workers Union (PSWU) of the Trade Union Congress (TUC) and involved them in the formulation of its new "BRAISE" strategy.



PARTNERSHIPS AND AWARDS

In ensuring partnership for mutually beneficial relations, the VRA permits all professionals in the Authority to freely choose and belong to various professional groups and supports in the payment of their subscription. The Authority also partners with these professional bodies for the achievement of mutual goals.

Partnerships with Professional Bodies

Professionals in VRA belong to external associations like the Ghana Institution of Engineers (GhIE), Ghana Institute of Architects (GIA), Institute of Chartered Accountants (ICA), Ghana Bar Association (GBA), Ghana Institute of Surveyors (GhIS), Ghana Journalists Association (GJA) and Institute of Public Relations (IPR), Ghana Institute of Procurement and Supply Chain (GIPS), Ghana, Chartered Institute of Human Resource Management (IHRMP), Chattered Institute of Administration and Management Consults GIAMC), Corporate Ghana Hall of Fame, Institute of Directors Ghana (IoD) etc.

Awards and Recognitions from Patrons

The Authority and its staff won several awards in 2020 for its excellent and sterling performance to the admiration of many, in its quest for setting the standards for public sector excellence. Some of the awards received include:

- Best Company in providing Sanitation Facilities Sustainability and Social Investments Awards
- Best Community Water Providing Company Sustainability and Social Investments Awards
- HR Innovation of the Year, Public Sector Africa Human Resources Innovation Awards (AHRIA)
- Best CSR Company of the Year Ghana Energy Awards
- Outstanding Covid-19 Taskforce of the Year Ghana Energy Awards
- Best CEO of the Year (Power Sector), Mr. Emmanuel Antwi-Darkwa (Chief Executive, VRA) Ghana Energy Awards
- Most People Focused CEO of the Year (Public Sector), Mr. Emmanuel Antwi-Darkwa (Chief Executive, VRA) AHRIA
- Africa Top 50 HR Leader, Dr. (Mrs.) I. Stella Agyenim-Boateng (Deputy Chief Executive, VRA) AHRIA
- HR Professional of the Year (Public Sector), Dr. (Mrs.) I. Stella Agyenim-Boateng (Deputy Chief Executive, VRA) AHRIA











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CELEBRATING 60 YEARS IN THE POWER BUSINESS;



VRA ... We Add Value To Lives

Climate Smart Stove Project

Our Climate Stove Project aims to minimise the harvesting and utilization of trees as firewood in the Volta Lake basin.

Electro Volta House, 28th February Road, Ministries, Accra www.vra.com